Claims

1. A method of producing a directly imageable planographic printing plate that comprises;

applying laser beam to a directly imageable planographic printing plate precursor comprising at least a substrate, a thermo-sensitive layer and a ink-repelling layer in this order,

removing the ink-repelling layer from the laser-irradiated portion, and dyeing, with a dyeing solution, of the printing area which is free of said ink-repelling layer,

wherein the difference between the reflected absorption of the non-printing area which holds the ink-repelling layer and the reflected absorption of said printing area, observed after dyeing of the printing plate at the absorption maximum wavelength of the dye in said dyeing solution, is not less than 0.3 and not more than 2.0.

2. A method of producing a directly imageable planographic printing plate according to Claim 1, wherein the absorption maximum wavelength of said dye exists in the range of 500 nm to 650 nm.

3. A method of producing a directly imageable planographic printing plate according to Claim 1, wherein the ultraviolet absorption spectrum of said directly imageable planographic printing plate precursor, observed by the reflection method, has the following features:

(1) the main peak in the ultraviolet absorption spectrum exists between 700 nm and 1,200 nm, and

(2) the ratio A/B of the absorbance at 830 nm (A) to the absorbance at 650 nm (B) is not less than 1.5.

4. A method of producing a directly imageable planographic printing plate according to Claim 1, wherein the ultraviolet

absorption spectrum of said directly imageable planographic printing plate precursor, observed by the transmission method, has the following features:

(1) the main peak in the ultraviolet absorption spectrum exists between 700 nm and 1,200 nm, and

(2) the ratio A/B of the absorbance at 830 nm (A) to the absorbance at 650 nm (B) is not less than 3.0.

5. A method of producing a directly imageable planographic printing plate according to Claim 3 or 4, wherein the maximum absorbance of said directly imageable planographic printing plate precursor in the wavelength range of 400 nm to 700 nm is not more than 2.

6. A method of producing a directly imageable planographic printing plate according to Claim 1, wherein the ink-repelling layer is a silicone rubber layer.

7. A directly imageable planographic printing plate precursor comprising at least a substrate, a thermo-sensitive layer and a ink-repelling layer in this order, wherein the ultraviolet absorption spectrum observed by the reflection method has the following features:

(1) the main peak in the ultraviolet absorption spectrum exists between 700 nm and 1,200 nm, and

(2) the ratio A/B of the absorbance at 830 nm (A) to the absorbance at 650 nm (B) is not less than 1.5.

8. A directly imageable planographic printing plate precursor comprising at least a substrate, a thermo-sensitive layer and a ink-repelling layer in this order, wherein the ultraviolet absorption spectrum observed by the transmission method has the following features:

(1) the main peak in the ultraviolet absorption spectrum exists between 700 nm and 1,200 nm, and

(2) the ratio A/B of the absorbance at 830 nm (A) to the absorbance at 650 nm (B) is not less than 3.0.

9. A directly imageable planographic printing plate precursor according to Claim 7 or 8, whose maximum absorbance in the wavelength range of 400-700 nm is not more than 2.

10. A directly imageable planographic printing plate precursor according to Claim 7 or 8, wherein the ink-repelling layer is a silicone rubber layer.

11. A directly imageable planographic printing plate comprising at least a substrate, a thermo-sensitive layer and a ink-repelling layer in this order, wherein the ultraviolet absorption spectrum observed by the reflection method has the following features:

(1) the main peak in the ultraviolet absorption spectrum exists between 700 nm and 1,200 nm, and

(2) the ratio A/B of the absorbance at 830 nm (A) to the absorbance at 650 nm (B) is not less than 1.5.

12. A directly imageable planographic printing plate comprising at least a substrate, a thermo-sensitive layer and a ink-repelling layer in this order, wherein the ultraviolet absorption spectrum observed by the transmission method has the following features:

(1) the main peak in the ultraviolet absorption spectrum exists between 700 nm and 1,200 nm, and

(2) the ratio A/B of the absorbance at 830 nm (A) to the absorbance at 650 nm (B) is not less than 3.0.

13. A directly imageable planographic printing plate according to Claim 11 or 12, whose maximum absorbance in the wavelength range of 400 nm to 700 nm is not more than 2.

14. A directly imageable planographic printing plate according to Claim 11 or 12, wherein the ink-repelling layer is a silicone rubber layer.

15. A directly imageable planographic printing plate comprising at least a substrate, a thermo-sensitive layer and a ink-repelling layer in this order, wherein the thermo-sensitive layer in the printing area contains a dye that has an absorption maximum in the range of 400 nm to 700 nm, and the difference between the reflected absorption of the non-printing area and the reflected absorption of the printing area, observed at the absorption maximum wavelength of the dye, is not less than 0.3 and not more than 2.0.

16. A directly imageable planographic printing plate according to Claim 15, wherein the absorption maximum wavelength of said dye exists in the range of 500 nm to 650 nm.

17. A directly imageable planographic printing plate according to Claim 15, wherein the ink-repelling layer is a silicone rubber layer.